



VTF180-2F32417

V180-2

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
VTF180-2F32417	6044022

Other models and accessories → www.sick.com/V180-2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background blanking
Dimensions (W x H x D)	18 mm x 18 mm x 69.8 mm
Housing design (light emission)	Cylindrical
Housing length	69.8 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	1 mm ... 140 mm ¹⁾
Sensing range	1 mm ... 100 mm ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 8 mm (100 mm)
Wave length	645 nm
Adjustment	Potentiometer, 270° (Sensing range)
Special feature	Focused optics

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Current consumption	30 mA ³⁾
Switching output	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 1.8 \text{ V}$ / 0 V
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Connector M12, 3-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Weight	18 g
Housing material	Plastic, PBT/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Fastening nuts (2 x)
Special feature	Focused optics
Ambient operating temperature	-25 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U_V tolerances.

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) A = V_S connections reverse-polarity protected.

7) B = inputs and output reverse-polarity protected.

8) D = outputs overcurrent and short-circuit protected.

Safety-related parameters

MTTF_D	1,982 years
DC_{avg}	0 %

Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904

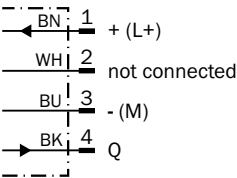
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type



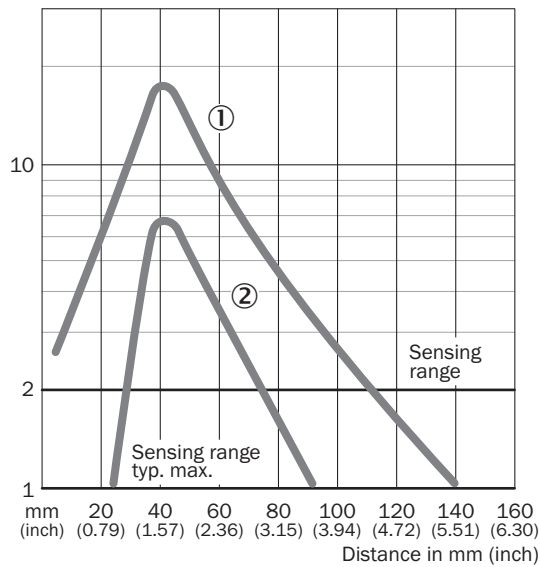
Connection diagram

Cd-066



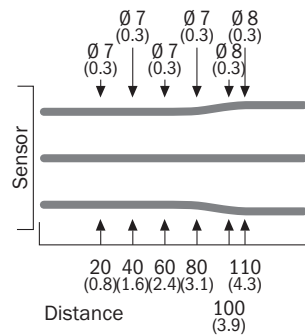
Characteristic curve

VTF180-2, 140 mm, axial



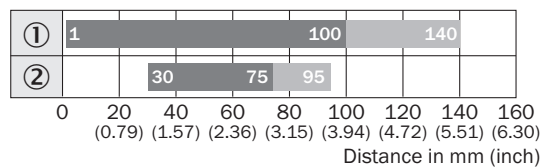
Light spot size

VTF180-2



Sensing range diagram

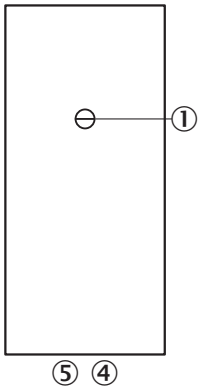
VTF180-2, 140 mm, axial



■ Sensing range ■ Sensing range max.

- ① Sensing range on white, 90% remission
② Sensing range on gray, 18 % remission

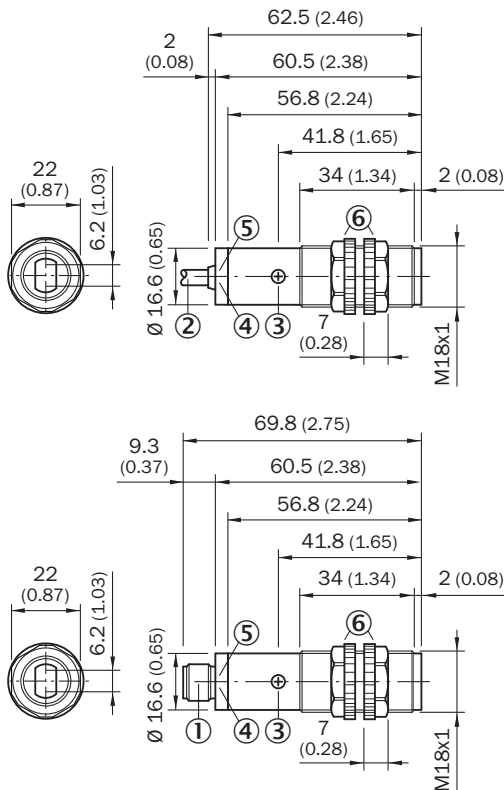
Adjustments



- ③ Sensitivity control 270°
- ④ LED indicator orange: switching output active
- ⑤ LED indicator green

Dimensional drawing (Dimensions in mm (inch))

VTF180-2, VTE180-2, VTB180-2, plastic, axial



- ① M12 male device connector, 4-pin
- ② Connection cable 2 m
- ③ Sensitivity control (potentiometer, 270°)
- ④ LED indicator orange: switching output active
- ⑤ LED indicator green: strength indicator
- ⑥ Fastening nuts (2 x); A/F 22, PC

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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